Summary and Conclusion

Summary:

The present study was designed to assess the level of epidermal growth factor (EGF) in maternal milk of preterm, full term newborn and cow's milk-based infant formula and correlates these levels to growth of those neonates.

This study was conducted on 60 mothers and their newborn. They were divided into two groups according to the newborns gestational age at birth. And each group is further subdivided according to type of feeding into three sub groups (exclusive breast feeding, mixed feeding and exclusive formula feeding).

Sixty colostrums samples were collected from mothers of lactating newborns and ten sample from different infant formula thirty colostrum sample collected from mothers of healthy preterms (gestational age at birth: between 32 – 36 weeks; birth weight: between 1.5 kgs – 2.4 kgs) and thirty from mothers of healthy full terms (gestational age at birth: between 38 – 42 weeks; birth weight: between 2.6 kgs – 3.9 kgs).

Thorough history was taken from all the mothers, with special emphasis on date of last menstrual period, age, weight, drug intake, fetal conditions, conditions of labour and delivery and acute natal complications. The newborns were subjected to complete physical examination including: general examination (vital data and anthropometric measurements),assessment of their maturity using the New Ballard Score and Apgar score at one and five minutes. And complete systemic examination .and follow up growth in the first three months of age.

Laboratory evaluation of EGF level in all the mothers' colostrum samples and artificial formulas was performed. The EGF values were compared with each other between the two groups (preterm Group and full term group), and correlated with the different parameters which were taken for both groups.

Our study revealed the following results:

Maternal age, infant gender, order of birth and Apgar score mean values showed no statistical significant difference among the two groups.

Preterm group and full term group were comparable and showed significant differences regarding their anthropometric measurements (weight, length and head circumference). The mean of weight, length and head circumference in preterm group were 2.02 kgs, 43.1 cms and 31.2 cms respectively; mean while the fullterm group mean weight was 3.13 kgs, mean length 49.1cms and head circumference mean was 35.04 cms.

The level of EGF in maternal colostrum was measured in both groups and was found to have a statistically significant higher mean in preterm group than in full term group with a value of 181.25 for preterm group, while 115.04 for full term group. Mean while this study showed that EGF is undetectable in infant formulas and there was no siginificant difference between level of EGF in maternal colostrum and mode of delivery and infant gender.

Our study reveled that, EGF content in maternal colostrum of preterm infants and full term was found to be negatively correlated with gestational age in weeks of neonates. Meanwhile, there was no correlation between the level of EGF and other variables including the anthropometric measurements (weight, length, and head circumference).

There was no significant difference in weight, length and head circumference increment percentage at the 1st three months of age between different type of feeding (exclusive breastfeeding, mixed feeding and exclusive formula feeding) in both full term and preterm group.

Conclusions:

In the current study, we concluded that:

- The highest EGF content was measured in colostrum from mothers of preterm infants in comparison to mothers of full term infants and it is undetectable in artificial formulas.
- The level of EGF in colostrum negatively correlated with gestational age in preterm and full term group.